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ABSTRACT

This paper reports on the 30th study group sponsored by the Appalachia Education Laboratory's (AEL) Classroom Instruction Program. Twenty-three K-12 teachers worked in seven teams in six schools throughout Virginia to design and implement classroom interdisciplinary curriculum units with accompanying alternative assignments. Project research explored the following: use of alternative assessment (products, performance tasks, personal communications, portfolios, observations) in integrated instruction; peer coaching; changes in instructional strategies when the focus is interdisciplinary; and the effect on students of using alternative assessments and interdisciplinary instruction. Findings of the study suggest: (1) administrative support should be visible and project specific; (2) released time is critical to unit/assessment development and implementation; (3) teams need to be volunteers who elect to work, teach, and reflect together; (4) starting small, with one unit and one or two assessments, enables teams to learn to work together and to make the matches between subjects without the pressure of revising a year-long curriculum; (5) keeping the emphasis on common goals, concepts, and skills can prevent units from being collections of activities, and assessments from resembling activities with little student integration of learning; (6) charting individual student progress throughout a unit (and across units) reminds students and teachers of the interconnectedness of subjects and concepts within subjects; and (7) alternative assessments provide greater opportunity for student creativity and increased student motivation. Conclusions and recommendations regarding the group's design and implementation of interdisciplinary instructional units and alternative assessments are reported in the study group's final product: "Interdisciplinary Units with Alternative Assessments: A Teacher-Developed Compendium." (ND)

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Interdisciplinary Curriculum and Instruction: Teaming to Improve Learning and Motivation

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Interdisciplinary Curriculum and Instruction: Teaming to Improve Learning and Motivation

Objectives

During 1993-94, twenty-three K-12 teachers worked in seven teams in six schools throughout Virginia to design and implement classroom interdisciplinary curriculum units with accompanying alternative assessments. Their work, as the 30th study group sponsored by the Appalachia Educational Laboratory's (AEL) Classroom Instruction Program, was supported by AEL, the Virginia Education Association (VEA), and the Virginia Department of Education (VDE). Project directors from the three organizations facilitated their work.

The final product of the group, a compendium of interdisciplinary units with alternative assessments, will join the more than 34 publications developed by study groups of teachers that are disseminated by the AEL and the cosponsoring educator associations. Study group methodologies, selected and adapted by study group members to their school settings, include action research, surveys, interviews, and other qualitative research methods. The purpose behind each of the groups, who investigate a single educational issue and develop a product useful to practitioners, is to facilitate the professional development of both the study group member and the product user.

Through training, materials provision, on-site collegial support, unit and assessment design, peer review/critique, implementation of units and assessments, student feedback, and individual and group reflection, teams in the Integrated Instruction/Alternative Assessment Study Group were able to develop, implement, and refine two interdisciplinary units and accompanying alternative assessments during the 1993-94 school year. (Integrated curriculum and instruction refer to interdisciplinary curriculum units within one or across two or more subjects and the team planning and teaching needed to implement those units. The terms interdisciplinary and integrated were used synonymously in the project and in this paper). Project research questions were:

1) How can various types of alternative assessments (products, performance tasks, personal communications, portfolios, observations) be used in integrated instruction?

2) How effective is peer coaching in assisting teachers in using integrated instruction with alternative assessments?

3) How do teachers change instruction to facilitate the use of alternative assessments?

4) What changes occur in instructional strategies when the focus is interdisciplinary?

5) What are the effects on student outcomes of using alternative assessments and interdisciplinary instruction?

Objectives of this paper and the group's final product are to: 1) report findings regarding the research questions; 2) provide samples of teacher-created units and assessments; 3) describe teacher concerns regarding design and implementation; 4) discuss evaluation data on teacher perceptions of personal professional development from study group work; and 5) report teacher and project director recommendations for teacher design and implementation of interdisciplinary curricular units and alternative assessments.

Perspectives

> Interdisciplinary curriculum: A knowledge view and curriculum approach that consciously applies methodology and language from more than one discipline to examine a central theme, issue, problem, topic or experience. (Jacobs, Ed., 1989, p. 8).

Thus, Heidi Hayes Jacobs describes her response to the fragmentation of today's curriculum in which students are exposed to concepts and skills in 50-minute chunks which remain disconnected as they move from subject to subject and year-to-year. Study group members in the project used the writings on interdisciplinary curriculum and instruction from three authors prominent in the field--Susan Drake, Robin Fogarty, and Heidi Hayes Jacobs. While their models of curriculum design differ, all acknowledge a progression from single subject curriculum with single teacher instruction through phases of integrating the curriculum and teaming for instruction. These phases provided plateaus for study group members as they worked individually to integrate topics and skills within subjects, across subjects, across grades, and among teachers.

Study group members encountered many of the difficulties described by other designer/implementors including inflexible schedules that prevented common planning time and team teaching; fear of abandoning established, subject-specific curricula and textbooks; and the problems of "potpourri" (units which are activity collections rather than integrated wholes) and "polarity" (the perspective that all instruction must be interdisciplinary at the expense of investigations within the disciplines) (Jacobs, p. 2).

While many group members set out to "adjust" their curriculum and assessments, letting go of old beliefs was critical as members examined essential questions such as "What is worth knowing?," "How do students learn best?," "How can students learn to look for and make connections within and between subjects?" Drake discussed these questions in relation to her three frameworks of interdisciplinary curriculum: what is important to learn within difference disciplines (multidisciplinary approach); how can we teach a student higher order competencies (interdisciplinary-skills approach); and how can we teach students to be productive citizens in the future (transdisciplinary/real world approach).

As they explored alternative assessments, study group members experimented with their choice among five types for which they received training--performance tasks, project/products, personal communications, portfolios, and observations/anecdotal records. "On Target with Authentic Assessment: Creating and Implementing Classroom Models," an AEL training

package based on recent literature by Wiggins, Shepherd, Baker and Linn, Herman, Mitchell, and others, was a source of training provided by project directors. Each study group member utilized a notebook of excerpts from "On Target" and "Linking the Disciplines: A Holistic Approach to Curriculum Design," an AEL School Excellence Workshop on interdisciplinary curriculum and teaming developed from the work of Jacobs, Drake, and Fogarty, and others.

In the emerging fields of interdisciplinary curriculum and alternative assessment, the focus has been on defining, developing, and refining the "whats" and "hows" of these new concepts. Research is just emerging on the "how wells," the evaluation of teaching and learning to determine if these new approaches make a difference. The qualitative processes of reflection used with study group members provide the data to describe the preliminary effectiveness of these curriculum, instruction, and assessment methods.

Study group members wrestled with the questions of which types of integrated curriculum and alternative assessment to design; how best to implement interdisciplinary instruction in a school with rigid grade levels and time schedules; what methods to communicate the new approaches to students, faculty, and parents; and in which ways can new forms be incorporated into existing grading scales. They dealt with issues that face each teacher or group engaged in reform.

Methods and Techniques

Study group members completed a team application for membership that included a writing sample from each member to describe his/her interest in and experience with interdisciplinary curriculum, alternative assessment, writing, and workshop presentation. The seven teams selected represented elementary, middle, and high school levels from large and small schools and districts throughout Virginia. To encourage peer coaching, four teams included a member of the preceding VEA-AEL Alternative Assessment Study Group who could informally continue professional development in alternative assessment at the school and assist in securing assistance such as community and administrative support.

Training; critiquing, and revision of interdisciplinary units and alternative assessments; sharing and discussion of student work; and teacher reflection were critical study group tasks during and between meetings. Also important to keeping the concepts well defined and the momentum high were two-three site visits to each team by project directors. Study group members engaged in qualitative assessment of their progress at meeting/training sessions and provided summative evaluation data on the experience at its conclusion. Most significant to their own understanding and that of others of their units and assessments was the culminating Exhibition at which each team displayed and discussed units and assessments around booths of student work and sample teacher-developed materials.

Finally, their recommendations to other designers and implementers of interdisciplinary units and alternative assessments were collected with their review of the draft compendium of units and assessments, the group's final product. These suggestions will form the final section of

this guide for practitioners. Excerpts from the final product *Interdisciplinary Units with Alternative Assessments: A Teacher-Developed Compendium* are included in this report.

Data Sources

A variety of data was gathered during the project including: teacher-developed interdisciplinary units and alternative assessments (a two-week to year-long curriculum guide for each team); student work as units were field-tested; observation and student and teacher interview notes from site visits; and teacher reflections (Reflections and Recommendations forms and data from group process techniques used throughout the project).

Results and Conclusions

Conclusions regarding the group's design and implementation of interdisciplinary instructional units and alternative assessments are reported in the group's final product *Interdisciplinary Units with Alternative Assessments: A Teacher-Developed Compendium* and follow in this paper. Findings on the research questions; recommendations for design and implementation of interdisciplinary units with alternative assessments; and data from the review of student work are reported herein. Sample teacher-developed units and assessments from a few of the teacher teams are also included. The publication's announcement flyer is attached. *Interdisciplinary Units with Alternative Assessments: A Teacher-Developed Compendium* is available from AEL's Distribution Center, P.O. Box 1348, Charleston, WV 25325.

Analysis of the project's qualitative data is the basis of the following conclusions:

- Administrative support should be visible and project-specific. Principals should communicate frequently with the team and about the team's work.
- Released time, preferably regular, common planning time, is critical to unit/assessment development and implementation. The lack of time is a physical and mental obstacle to team work.
- Teams need to be volunteers who elect to work, teach, and reflect together. Learning to share is essential.
- Starting small, with one unit and one or two assessments, enables teams to learn to work together and to make the matches between subjects without the pressure of revising a year-long curriculum.
- Keeping the emphasis on common goals, concepts, and skills can prevent units from being collections of activities, and assessments from resembling activities with little student integration of learning.

- Charting individual student progress throughout a unit (and across units) reminds students and teachers of the interconnectedness of subjects and concepts within subjects.

- Alternative assessments provide greater opportunity for student creativity and increased student motivation and are the most appropriate forms of assessment for interdisciplinary units.

Educational Importance of the Study

Study group members worked as teams to develop and implement interdisciplinary units and alternative assessments selected from among several models about which they received training and information. Their schools exemplified a range of situations from supportive and facilitating to rigidly structured with few opportunities for collaboration. Their reflections on changes in attitude toward integrated instruction and alternative assessment, teamwork, administrative support, research, and the study group process are reported in the following sections. Also described are teacher reports of frequency of use of various forms of interdisciplinary units and alternative assessments and the degree to which their units and assessments permitted students to develop several critical thinking skills and abilities. Findings related to the research questions are also reported. Recommendations for implementation of interdisciplinary curriculum and instruction with alternative assessments and suggestions for future research are included.

Jacobs, H. (Ed.). (1989). *Interdisciplinary curriculum: Design and implementation*. Alexandria, VA: Association for Supervision and Curriculum Development.

Drake, S. (1993). *Planning Integrated Curriculum: The call to adventure*. Alexandria, VA: Association for Supervision and Curriculum Development.